

Please type a plus sign (+) inside this box → ☐

PTO/SB/8A (08-00)

Approved for use through 10/31/2002 OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete if Known

| | |
|------------------------|-----------------------|
| Application Number | 09/626,096 |
| Filing Date | July 26, 2000 |
| First Named Inventor | UMEK |
| Group Art Unit | 1645 |
| Examiner Name | Not Yet Assigned |
| Attorney Docket Number | A-68271-2/RFT/RMS/RMK |

PAT. SHEET 1 of 3

U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | U.S. Patent Document | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|-----------------------|----------------------|-----------------------------------|---|--|---|
| | | Number | Kind Code ² (if known) | | | |
| NAC | 1 | 4,704,193 | | Bowers et al. | 11/1987 | |
| | 2 | 4,787,963 | | MacConnell | 11/1988 | |
| | 3 | 4,945,045 | | Forrest et al. | 07/1990 | |
| | 4 | 5,089,112 | | Skotheim et al. | 02/1992 | |
| | 5 | 5,180,968 | | Bruckenstein et al. | 01/1993 | |
| | 6 | 5,242,828 | | Bergstrom et al. | 09/1993 | |
| | 7 | 5,328,824 | | Ward et al. | 07/1994 | |
| | 8 | 5,391,272 | | O'Daly et al. | 02/1995 | |
| | 9 | 5,436,161 | | Bergstrom et al. | 07/1995 | |
| | 10 | 5,443,701 | | Willner et al. | 08/1995 | |
| | 11 | 5,571,568 | | Ribi et al. | 06/1989 | |
| | 12 | 5,632,957 | | Heller et al. | 05/1997 | |
| | 13 | 5,700,667 | | Marble et al. | 12/1997 | |
| | 14 | 5,795,453 | | Gilmartin | 08/1998 | |
| | 15 | 5,837,859 | | Teoule et al. | 11/1998 | |
| | 16 | 5,849,486 | | Heller et al. | 12/1998 | |
| | 17 | 6,060,023 | | Maracas | 05/2000 | |
| | 18 | 6,060,327 | | Keen | 05/2000 | |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁴ |
|--------------------|-----------------------|-------------------------|---------------------|-----------------------------------|---|--|---|----------------|
| | | Office ³ | Number ⁴ | Kind Code ² (if known) | | | | |
| NAC | 19 | WO | 97/31256 | A3 | Cornell Research Found. | 08/1997 | | |
| | 20 | WO | 97/41425 | A1 | Pence Inc. | 11/1997 | | |
| | 21 | WO | 98/51823 | A1 | Mosaic Technologies | 11/1998 | | |

Examiner Signature

Keith R. Calvert

Date Considered

12/08/2004

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

1075956

*Please type a plus sign (+) inside this box → ☐

PTO/SB/8A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

Complete if Known

| | |
|------------------------|-----------------------|
| Application Number | 09/626,096 |
| Filing Date | July 26, 2000 |
| First Named Inventor | UMEK |
| Group Art Unit | 1645 |
| Examiner Name | Not Yet Assigned |
| Attorney Docket Number | A-68271-2/RFT/RMS/RMK |

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet of 3

U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | U.S. Patent Document | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|-----------------------|----------------------|-----------------------------------|---|--|---|
| | | Number | Kind Code ² (if known) | | | |
| Nac | 22 | 6,071,699 | | Meade et al. | 06/2000 | |
| | 23 | 6,087,100 | | Meade et al. | 07/2000 | |
| | 24 | 6,096,273 | | Kayyem et al. | 08/2000 | |
| | 25 | 6,096,825 | | Garnier et al. | 08/2000 | |
| | 26 | 6,107,080 | | Lennox | 08/2000 | |
| | 27 | 6,177,250 | | Meade et al. | 01/2001 | |
| | 28 | 6,180,352 | | Meade et al. | 01/2001 | |
| | 29 | 6,200,761 | | Meade et al. | 03/2001 | |
| | 30 | 6,203,758 | | Marks et al. | 03/01 | |
| | 31 | 6,207,369 | | Wohlstadter et al. | 03/2001 | |
| | 32 | 6,238,870 | | Meade et al. | 05/2001 | |
| | | | | | | |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ³ |
|--------------------|-----------------------|-------------------------|---------------------|-----------------------------------|---|--|---|----------------|
| | | Office ⁴ | Number ⁴ | Kind Code ² (if known) | | | | |
| Nac | 33 | WO | 98/57319 | A1 | Clinical Micro Sensors, Inc. | 11/1999 | | |
| | 34 | WO | 99/29711 | A1 | Nanogen Inc. | 06/1999 | | |
| | 35 | WO | 98/31839 | A2 | President and Fellows of Harvard College | 07/1998 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Examiner Signature

Date Considered

12/08/2004

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

1075956

of 1998. Any persons are required to


Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
 Section of information unless it contains a valid OMB control number.

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it contains a valid OMB control number.

| | | | | | |
|---|---|----|---|--------------------------|-----------------------|
| Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i> | | | | Complete if Known | |
| | | | | Application Number | 09/626,096 |
| | | | | Filing Date | July 26, 2000 |
| | | | | First Named Inventor | UMEK |
| | | | | Group Art Unit | 1645 |
| | | | | Examiner Name | Not Yet Assigned |
| | | | | Attorney Docket Number | A-68271-2/RFT/RMS/RMK |
| Sheet | 3 | of | 3 | | |

[illegible]

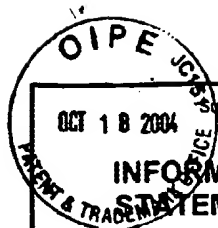
| | | | |
|-----------------------|---|--------------------|------------|
| Examiner Signature |  | Date Considered | 12/28/2014 |
|-----------------------|---|--------------------|------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231.

1075956



| | | | | | |
|---|---|--------------------------|-------------------|------------------------|--------------------------------------|
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Complete if Known | | | |
| | | Application Number | 09/626,098 | | |
| | | Filing Date | July 26, 2000 | | |
| | | First Named Inventor | UMEK, Robert M. | | |
| | | Art Unit | 1637 | | |
| | | Examiner Name | Calamita, Heather | | |
| Sheet | 1 | of | 10 | Attorney Docket Number | A-68271-2/RMS/RMK/SPL (463037-00204) |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|-----------------------|---|--------------------------------|---|--|
| Examiner Initials* | Cite No. ¹ | Document Number Number-Kind Code ² (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| Hae | A1 | 4,656,127 | 04-07-1987 | Mundy | |
| | A2 | 4,683,195 | 07-28-1987 | Mullis et al. | |
| | A3 | 4,683,202 | 07-28-1987 | Mullis | |
| | A4 | 4,713,347 | 12-15-1987 | Mitchell et al. | |
| | A5 | 4,851,331 | 07-25-1989 | Vary et al. | |
| | A6 | 4,876,187 | 10-14-1989 | Duck et al. | |
| | A7 | 4,988,617 | 01-29-1991 | Landegren et al. | |
| | A8 | 5,011,769 | 04-30-1991 | Duck et al. | |
| | A9 | 5,015,569 | 05-14-1991 | Pontius | |
| | A10 | 5,130,238 | 07-14-1992 | Malek et al. | |
| | A11 | 5,156,810 | 10-20-1992 | Ribi | |
| | A12 | 5,171,853 | 12-15-1992 | Thorp et al. | |
| | A13 | 5,175,270 | 12-29-1992 | Nilsen et al. | |
| | A14 | 5,200,051 | 04-08-1993 | Cozzette et al. | |
| | A15 | 5,238,808 | 08-24-1993 | Bard et al. | |
| | A16 | 5,244,560 | 09-14-1993 | Kuhr | |
| | A17 | 5,308,754 | 05-03-1994 | Kankare et al. | |
| | A18 | 5,403,711 | 04-04-1995 | Walder et al. | |
| | A19 | 5,409,818 | 04-25-1995 | Davey et al. | |
| | A20 | 5,455,166 | 10-03-1995 | Walker | |
| | A21 | 5,474,796 | 12-12-1995 | Brennan | |
| | A22 | 5,487,973 | 01-30-1996 | Nilsen et al. | |
| | A23 | 5,492,806 | 02-20-1996 | Dmanac et al. | |
| | A24 | 5,494,810 | 02-27-1996 | Barany et al. | |
| | A25 | 5,525,464 | 06-11-1996 | Dmanac et al. | |
| | A26 | 5,534,424 | 07-09-1996 | Uhlen et al. | |
| | A27 | 5,545,531 | 08-13-1996 | Rava et al. | |
| | A28 | 5,547,839 | 08-20-1996 | Dower et al. | |
| | A29 | 5,565,322 | 10-15-1996 | Heller | |
| | A30 | 5,616,464 | 04-01-1997 | Albagli et al. | |
| | A31 | 5,660,988 | 08-26-1997 | Duck et al. | |
| | A32 | 5,670,322 | 09-23-1997 | Eggers et al. | |

| | | | |
|--------------------|----------------------------|-----------------|------------|
| Examiner Signature | <i>Heather A. Calamita</i> | Date Considered | 12/08/2004 |
|--------------------|----------------------------|-----------------|------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2



| | | | | | |
|---|---|--------------------------|-------------------|------------------------|--------------------------------------|
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Complete if Known | | | |
| | | Application Number | 09/626,096 | | |
| | | Filing Date | July 26, 2000 | | |
| | | First Named Inventor | UMEK, Robert M. | | |
| | | Art Unit | 1637 | | |
| | | Examiner Name | Calamita, Heather | | |
| Sheet | 2 | of | 10 | Attorney Docket Number | A-68271-2/RMS/RMK/SPL (463037-00204) |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|-----------------------|---|--------------------------------|---|---|
| Examiner Initials* | Cite No. ¹ | Document Number Number-Kind Code ² (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| H/C | A33 | 5,695,940 | 12-09-1997 | Drmanac et al. | |
| | A34 | 5,705,346 | 01-06-1998 | Okamoto et al. | |
| | A35 | 5,710,028 | 01-20-1998 | Eyal et al. | |
| | A36 | 5,727,548 | 03-17-1998 | Hill et al. | |
| | A37 | 5,747,255 | 05-05-1998 | Brenner | |
| | A38 | 5,767,259 | 06-16-1998 | Albagli et al. | |
| | A39 | 5,780,224 | 07-14-1998 | Collins et al. | |
| | A40 | 5,837,832 | 11-17-1998 | Chee et al. | |
| | A41 | 5,846,708 | 12-08-1998 | Hollis et al. | |
| | A42 | 5,846,717 | 12-08-1998 | Brow et al. | |
| | A43 | 5,861,242 | 01-19-1999 | Chee et al. | |
| | A44 | 5,871,918 | 02-16-1999 | Thorp et al. | |
| | A45 | 5,874,046 | 02-23-1999 | Megerle | |
| | A46 | 5,888,819 | 03-30-1999 | Goelet et al. | |
| | A47 | 5,891,630 | 04-06-1999 | Eggers et al. | |
| | A48 | 5,922,617 | 07-13-1999 | Wang et al. | |
| | A49 | 5,925,520 | 07-20-1999 | Tully et al. | |
| | A50 | 5,942,388 | 08-24-1999 | Willner et al. | |
| | A51 | 5,942,397 | 08-24-1999 | Tarlov et al. | |
| | A52 | 5,945,286 | 03-31-1998 | Krihak et al. | |
| | A53 | 5,968,745 | 10-19-1999 | Thorp et al. | |
| | A54 | 5,972,692 | 10-26-1999 | Hashimoto et al. | |
| | A55 | 5,976,802 | 11-02-1999 | Ansorge et al. | |
| | A56 | 6,066,448 | 05-23-2000 | Wohlstadter et al. | |
| | A57 | 6,090,545 | 07-18-2000 | Wohlstadter et al. | |
| | A58 | 6,361,671 B1 | 03-26-2002 | Mathies et al. | |

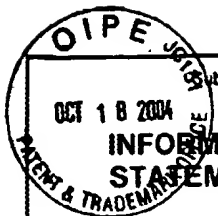
| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|-------------------------|---|--------------------------------|---|---|---|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document Country Code ² Number ³ Kind Code ⁴ (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | † |
| H/C | B1 | EP 0 142 301 A2 | 05-22-1985 | Serono Diagnostics Limited | | |
| H/C | B2 | EP 0 317 074 B1 | 05-24-1989 | Orion-Yhtymä Oy | | |
| Examiner Signature | <i>Heather Calamita</i> | | Date Considered | 12/08/2004 | | |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2



| | | | | | |
|---|---|--------------------------|-------------------|------------------------|--------------------------------------|
| Substitute for form 1449A/PTO (Modified) | | Complete if Known | | | |
| | | Application Number | 09/626,096 | | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Filing Date | July 26, 2000 | | |
| | | First Named Inventor | UMEK, Robert M. | | |
| | | Art Unit | 1637 | | |
| | | Examiner Name | Calamita, Heather | | |
| Sheet | 3 | of | 10 | Attorney Docket Number | A-68271-2/RMS/RMK/SPL (463037-00204) |

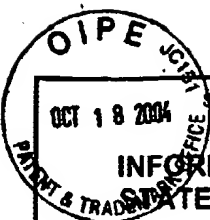
| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|-----------------------|---|-----------------------------|---|---|----------------|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document Country Code ² Number ³ Kind Code ⁴ (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁵ |
| HGC | B3 | EP 0 371 437 B1 | 06-06-1990 | Orion-Yhtymäe Oy | | |
| | B4 | EP 0 478 319 A1 | 04-01-1992 | Tokyo Shibaura Electric Co. | | |
| | B5 | EP 0 668 502 A2 | 08-23-1995 | Yissum Research Development | | |
| | B6 | WO 92/15712 A1 | 09-17-1992 | Molecular Tool Inc. | | |
| | B7 | WO 93/10267 A1 | 05-27-1993 | Igen, Inc. | | |
| | B8 | WO 93/25898 A1 | 12-23-1993 | Medisense, Inc. | | |
| | B9 | WO 95/00666 A1 | 01-05-1995 | The Research Foundation of State University of New York | | |
| | B10 | WO 95/00667 A1 | 01-05-1995 | The Research Foundation of State University of New York | | |
| | B11 | WO 95/00669 A1 | 01-01-1995 | Pharmacia Biotech AB | | |
| | B12 | WO 95/05480 A2/A3 | 02-23-1995 | BioMedical Corp. | | |
| | B13 | WO 95/34816 A1 | 12-21-1995 | Pharmacia Biosensor AB | | |
| | B14 | WO 96/06946 A1 | 03-07-1996 | Igen, Inc. | | |
| | B15 | WO 97/13075 A1 | 09-05-1997 | Danfoss A/S | | |
| | B16 | WO 97/27473 A1 | 07-31-1997 | Northwestern University | | |
| | B17 | WO 98/04740 A1 | 02-05-1998 | Northwestern University | | |
| | B18 | WO 98/12539 A1 | 03-26-1998 | Meso Scale Technologies, LLC | | |
| | B19 | WO 98/49344 A1 | 11-05-1998 | Lockheed Martin Energy Research Corp. | | |
| | B20 | WO 99/13109 A1 | 03-18-1999 | Seq Ltd. | | |
| | B21 | WO 99/15893 A1 | 04-01-1999 | Aventis Res. & Technologies GmbH & Co. | | |

| NON PATENT LITERATURE DOCUMENTS | | | | † ⁵ |
|---------------------------------|-----------------------|---|--|----------------|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | | |
| HGC | C1 | ALEXANDER, V., "Design and Synthesis of Macrocyclic Ligands and Their Complexes of Lanthanides and Actinides," <i>Chem. Rev.</i> 95(2):273-342 (Mar. - Apr. 1995). | | |
| HGC | C2 | ALSFASSER, R., et al., "Novel Building Blocks for Biomimetic Assemblies. Synthesis, Characterization, and Spectroscopic and Electrochemical Properties of New Bidentate Ligands Derived from Lysine and Cystine and Their Complexes with Bis(2,2'-bipyridine)ruthenium(II)," <i>Inorg. Chem.</i> 35(3):628-636 (Jan. 1996). | | |

| | | | |
|--------------------|--|-----------------|------------|
| Examiner Signature | | Date Considered | 11/08/2004 |
|--------------------|--|-----------------|------------|

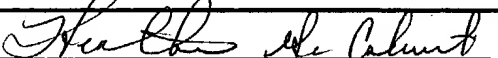
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 801.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-766-9199) and selection option 2



| | | | | | |
|---|---|--------------------------|-------------------|------------------------|--------------------------------------|
| Substitute for form 1449A/PTO (Modified) | | Complete if Known | | | |
| | | Application Number | 09/626,096 | | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Filing Date | July 26, 2000 | | |
| | | First Named Inventor | UMEK, Robert M. | | |
| | | Art Unit | 1637 | | |
| | | Examiner Name | Calamita, Heather | | |
| Sheet | 4 | of | 10 | Attorney Docket Number | A-68271-2/RMS/RMK/SPL (463037-00204) |

| NON PATENT LITERATURE DOCUMENTS | | | |
|---------------------------------|-----------------------|--|----------------|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
| Hee | C3 | ARKIN, M., et al., "Rates of DNA-Mediated Electron Transfer Between Metallointercalators," <i>Science</i> 273(5274):475-480 (Jul. 1996). | |
| | C4 | BAINS, W., et al., "A Novel Method for Nucleic Acid Sequence Determination," <i>J. Theor. Biol.</i> 135(3):303-307 (Dec. 1988). | |
| | C5 | BARANY, F., "Genetic disease detection and DNA amplification using cloned thermostable ligase," <i>Proc. Natl. Acad. Sci. USA</i> 88(1):189-193 (Jan. 1991). | |
| | C6 | BEATTIE, K., et al., "Advances in Genosensor Research," <i>Clin. Chem.</i> 41(5):700-706 (1995). | |
| | C7 | BIGNOZZI, C., et al., "A simple poly(pyridine)ruthenium(II) photosensitizer: (2,2'-bipyridine)tetracyanoruthenate(II)," <i>J. Am. Chem. Soc.</i> 108(24):7872-7873 (Nov. 1986). | |
| | C8 | BJERRUM, M., et al., "Electron transfer in ruthenium-modified proteins," <i>J. Bioenerg. Biomembr.</i> 27(3):295-302 (Jun. 1995). | |
| | C9 | BLOUNDER, R., et al., "Application of redox enzymes for probing the antigen-antibody association at the monolayer interfaces: development of amperometric immunosensor electrodes," <i>Anal. Chem.</i> 68(18):3151-3157 (Sep. 1996). | |
| | C10 | CARLSSON, C., et al., "Screening for genetic mutations," <i>Nature</i> 380(6571):207 (Mar. 1996). | |
| | C11 | CARTER, M., et al., "Electrochemical investigations of the interaction of metal chelates with DNA. 3. Electrogenated chemiluminescent investigation of the interaction of tris(1,10-phenanthroline)ruthenium(II) with DNA," <i>Bioconj. Chem.</i> 1(4):257-263 (Jul. - Aug. 1990). | |
| | C12 | CARTER, P., et al., "Oxidation of DNA Hairpins by Oxoruthenium(IV): Effects of Sterics and Secondary Structure," <i>Inorg. Chem.</i> 35(11):3348-3354 (May. 1996). | |
| | C13 | CARUANA, D. J., et al., "Enzyme-amplified amperometric detection of hybridization and of a single base pair mutation in an 18-base oligonucleotide on a 7-µm-diameter microelectrode," <i>J. Am. Chem. Soc.</i> 121(4):769-774 (Feb. 1999). | |
| | C14 | CHAILAPAKUL, O., et al., "Interactions between organized, surface-confined monolayers and liquid-phase probe molecules. 4. synthesis and characterization of nanoporous molecular assemblies: mechanism of probe penetration," <i>Langmuir</i> 11(4):1329-1340 (Apr. 1995). | |
| | C15 | CHENG, J., et al., "Selectivity and sensitivity of self-assembled thioctic acid electrodes," <i>Anal. Chem.</i> 64(17):1998-1999 (Sep. 1992). | |
| | C16 | CHIEM, N., et al., "Microfluidic Systems for Clinical Diagnostics," <i>Transducers'97, Intl. Conf. Solid-State Sens. Actuators</i> , Chicago, IL (Jun. 16 - 19, 1997). | |
| | C17 | CLARKE, P.R., et al., "Physical and chemical aspects of ultrasonic disruption of cells," <i>J. Acoustics Soc. Am.</i> 50 649-653 (1970). | |
| | C18 | DAIZADEH, I., et al., "Effect of protein dynamics on biological electron transfer," <i>Proc. Natl. Acad. Sci. USA</i> 94(8):3703-3708 (Apr. 1997). | |
| | C19 | DAUBENDIEK, S., et al., "Generation of catalytic RNAs by rolling trascription of synthetic DNA nanocircles," <i>Nat. Biotechnol.</i> 15(3):273-277 (Mar. 1997). | |

| | | | |
|--------------------|---|-----------------|------------|
| Examiner Signature |  | Date Considered | 11/08/2004 |
|--------------------|---|-----------------|------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2



| | | | |
|---|---|--------------------------|--------------------------------------|
| Substitute for form 1449A/PTO (Modified) | | Complete if Known | |
| | | Application Number | 09/626,096 |
| | | Filing Date | July 26, 2000 |
| | | First Named Inventor | UMEK, Robert M. |
| | | Art Unit | 1637 |
| | | Examiner Name | Calamita, Heather |
| | | Attorney Docket Number | A-68271-2/RMS/RMK/SPL (463037-00204) |
| Sheet | 5 | of | 10 |

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

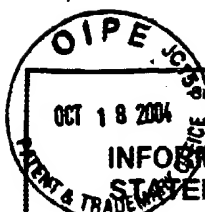
NON PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | † |
|--------------------|--|---|---|
| Hce | C20 | DELAMARCHE, E., et al., "Immobilization of antibodies on a photoactive self-assembled monolayer on gold," <i>Langmuir</i> 12(8):1997-2006 (Apr. 1996). | |
| | C21 | DOKTYCZ, M., et al., "Genosensors and Model Hybridization Studies," <i>Automation Technologies for Genome Characterization</i> , T. Beugelskijk (ed.), John Wiley & Sons: New York, NY, 1997, 10:205-225. | |
| | C22 | DONG, S., "Self-assembled monolayers of thiols on gold electrodes for bioelectrochemistry and biosensors," <i>Bioelectrochem. Bioenerg.</i> 42(1):7-13 (1997). | |
| | C23 | DONTHA, N., et al., "Generation of biotin/avidin/enzyme nanostructures with maskless photolithography," <i>Anal. Chem.</i> 69(14):2619-2625 (Jul. 1997). | |
| | C24 | DORON, A., et al., "An Electroactive photoisomerizable monolayer-electrode: a command surface for the amperometric transduction of recorded optical signals," <i>Angew. Chem. Int. Ed. Engl.</i> 35(13&14):1535-1538 (Jul. 1996). | |
| | C25 | DRMANAC, R., et al., "Sequencing of Megabase Plus DNA Hybridization: Theory of the Method," <i>Genomics</i> 4(2):114-128 (Feb. 1989). | |
| | C26 | DUAN, C., et al., "Separation-free sandwich enzyme immunoassays using microporous gold electrodes and self-assembled monolayer/immobilized capture antibodies," <i>Anal. Chem.</i> 66(9):1369-1377 (May. 1994). | |
| | C27 | DUCEY, M., et al., "Competitive nonseparation electrochemical enzyme binding/immunoassay (NEEIA) for small molecule detection," <i>Anal. Chim. Acta</i> 357(1&2):5-12 (Dec. 1997). | |
| | C28 | EGGERS, M., et al., "Genosensors: Microfabricated Devices for Automated DNA Sequence Analysis," <i>Adv. DNA Sequencing Tech.</i> 1891:113-126 (1993). | |
| | C29 | EGHOLM, M., et al., "Peptide nucleic acids (PNA) Oligonucleotide Analogues with an Achiral Peptide Backbone," <i>J. Am. Chem. Soc.</i> 114(5):1895-1897 (Feb. 1992). | |
| | C30 | ELLIOTT, C.M., et al., "Electrochemistry, spectroelectrochemistry, and photochemistry of a series of new covalently linked tris(2,2'-bipyridine)ruthenium(II)/diquat complexes," <i>J. Am. Chem. Soc.</i> 107(16):4647-4655 (Aug. 1985). | |
| | C31 | EVENSEN, H., et al., "Automated fluid mixing in glass capillaries," <i>Rev. Scient. Instrum.</i> 69(2):519-526 (Feb. 1998). | |
| | C32 | EWING, A., et al., "Electrochemical detection in microcolumn separations," <i>Anal. Chem.</i> 66(9):527A-537A (May 1994). | |
| | C33 | FOJTA, M., et al., "Supercoiled DNA-modified mercury electrode: A highly sensitive tool for the detection of DNA damage," <i>Anal. Chim. Acta</i> 342(1):1-12 (Apr. 1997). | |
| | C34 | FOSSUM, E., "Novel Sensor Enables Low-Power, Miniaturized Imagers," <i>Photonics Spectra</i> 125-126 (Jan. 1996). | |
| | C35 | FUKUI, K., et al., "Distance dependence of photoinduced electron transfer in DNA," <i>Angew. Chem. Int. Ed. Engl.</i> 37(1&2):158-161 (Feb. 1998). | |
| | C36 | GHINDILIS, A., et al., "Immunosensors: electrochemical sensing and other engineering approaches," <i>Biosens. Bioelect.</i> 13(1):113-131 (Jan. 1998). | |
| C37 | GONGORA-RUBIO, M.R., et al., "Overview of low temperature co-fired ceramics tape technology for meso-systems/technology (MsST)," <i>Sens. Actuators A</i> 89(3):222-241 (Apr. 2001). | | |

| | | | |
|--------------------|--|-----------------|------------|
| Examiner Signature | | Date Considered | 12/08/2004 |
|--------------------|--|-----------------|------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2



| | | | | | |
|---|---|--------------------------|-------------------|------------------------|--------------------------------------|
| Substitute for form 1449A/PTO (Modified) | | Complete if Known | | | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Application Number | 09/626,096 | | |
| | | Filing Date | July 26, 2000 | | |
| | | First Named Inventor | UMEK, Robert M. | | |
| | | Art Unit | 1637 | | |
| | | Examiner Name | Calamita, Heather | | |
| Sheet | 6 | of | 10 | Attorney Docket Number | A-68271-2/RMS/RMK/SPL (463037-00204) |

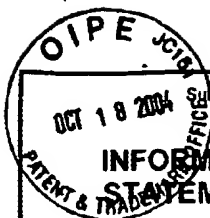
NON PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|--------------------|-----------------------|---|----------------|
| NAC | C38 | GOODWIN, D., et al., "Microwave Miniprep of Total Genomic DNA from Fungi, Plants, Protists and Animals for PCR," <i>BioTechniques</i> 15(3):437-441 (1993). | |
| | C39 | GOZEL, P., et al., "Electrokinetic resolution of amino acid enantiomers with copper(II)-aspartame support electrolyte," <i>Anal. Chem.</i> 59(1):44-49 (Jan. 1987). | |
| | C40 | HALL, D., et al., "Sensitivity of DNA-Mediated Electron Transfer to the Intervening π -Stack: A Probe for the Integrity of the DNA Base Stack," <i>J. Am. Chem. Soc.</i> 119(21):5045-5046 (May. 1997). | |
| | C41 | HARRISON, D., et al., "Characterization of perfluorosulfonic acid polymer coated enzyme electrodes and a miniaturized integrated potentiostat for glucose analysis in whole blood," <i>Anal. Chem.</i> 60(19):2002-2007 (Oct. 1988). | |
| | C42 | HARRISON, D., et al., "Immunoassay Flow Systems in-Chip," <i>Solid-State Sensor and Actuator Workshop</i> , Hilton Head, SC, pp. 5-8 (1996). | |
| | C43 | HASHIMOTO, K., et al., "DNA sensor: A novel electrochemical gene detection method using carbon electrode immobilized DNA probes," <i>Supramol. Chem.</i> 2:265-270 (1993). | |
| | C44 | HERNE, T.M., et al., "Characterization of DNA Probes Immobilized on Gold Surfaces," <i>J. Am. Chem. Soc.</i> 119(38):8916-8920 (Sep. 1987). | |
| | C45 | HOFFMANN, A., et al., "Purification of his-tagged proteins in non-denaturing conditions suggests a convenient method for protein interaction studies," <i>Nucleic Acids Res.</i> 19(22):6337-6338 (Nov. 1991). | |
| | C46 | HWANG, J-T., et al., "Synthesis of 2'-Modified Oligodeoxynucleotides via On-column Conjugation," <i>J. Org. Chem.</i> 66(2):363-369 (Jan. 2002). | |
| | C47 | HWANG, J-T., et al., "Synthesis of Modified Oligodeoxyribonucleotides on a Solid Phase Support via Derivatization of a Selectively Revealed 2'-Amino-2-deoxyuridine," <i>Org. Lett.</i> 1(12):2021-2024 (Dec. 1999). | |
| | C48 | IHARA, T., et al., "Gene sensor using ferrocenyl oligonucleotide," <i>Chem. Commun.</i> 17:1609-1610 (1997). | |
| | C49 | JIANG, L., et al., "Direct electron transfer reactions of glucose oxidase immobilised at a self-assembled monolayer," <i>J. Chem. Soc. Chem. Commun.</i> 12:1293-1295 (1995). | |
| | C50 | JONSSON, U., et al., "Biosensors based on surface concentration measuring devices - The concept of surface concentration," <i>Prog. Colloid Polym. Sci.</i> 70:96-100 (1985). | |
| | C51 | KATZ, E., et al., "Application of stilbene-(4,4'-diisothiocyanate)-2,2'-disulfonic acid as a bifunctional reagent for the organization of organic materials and proteins onto electrode surfaces," <i>J. Electroanal. Chem.</i> 354(1&2):129-144 (1993). | |
| | C52 | KATZ, E., et al., "Electrical contact of redox enzymes with electrodes: novel approaches for amperometric biosensors," <i>Bioelectrochem. Bioenerg.</i> 42(1):95-104 (1997). | |
| | C53 | KATZ, E., et al., "Electron Transfer in Self-Assembled Monolayers of N-Methyl-N'-carboxyalkyl-4,4'-bipyridinium Linked to Gold Electrodes," <i>Langmuir</i> 9(5):1392-1396 (May. 1993). | |
| | C54 | KELLEY, S.O., et al., "Photoinduced Electron Transfer in Ethidium-Modified DNA Duplexes: Dependence on Distance and Base Stacking," <i>J. Am. Chem. Soc.</i> 119(41):9861-9870 (Oct. 1997). | |
| | C55 | KIRSCHENHEUTER, G., et al., "An Improved Synthesis of 2'-Azido-2'-Deoxyuridine," <i>Tetrahedron Lett.</i> 35(46):8517-8520 (Nov. 1994). | |

| | | | |
|--------------------|-------------------------|-----------------|------------|
| Examiner Signature | <i>Heather Calamita</i> | Date Considered | 02/08/2004 |
|--------------------|-------------------------|-----------------|------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English Language Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2



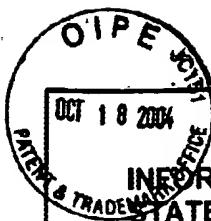
| | | | | | |
|---|-------------------|--------------------------|-----------------|------------------------|--------------------------------------|
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Complete if Known | | | |
| | | Application Number | 09/626,096 | | |
| | | Filing Date | July 26, 2000 | | |
| | | First Named Inventor | UMEK, Robert M. | | |
| | | Art Unit | 1637 | | |
| Examiner Name | Calamita, Heather | | | | |
| Sheet | 7 | of | 10 | Attorney Docket Number | A-68271-2/RMS/RMK/SPL (463037-00204) |

| NON PATENT LITERATURE DOCUMENTS | | | |
|---------------------------------|-----------------------|---|----------------|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
| McG | C56 | KOHNE, D., et al., "Room temperature method for increasing the rate of dna reassociation by many thousandfold: the phenol emulsion reassociation technique," <i>Biochemistry</i> 16(24):5329-5341 (Nov. 1977). | |
| | C57 | KRETSCHMANN, E., et al., "Radioactive Decay of Non Radiative Surface Plasmons Excited by Light," <i>Z. Naturforsch.</i> 23A:2135-2136 (1968). | |
| | C58 | KUNITAKE, M., et al., "Transmembrane rectified electron transfer through π -conjugated electroactive langmuir-blodgett monolayers on gold electrodes," <i>Bull. Chem. Soc. Jpn.</i> 67(2):373-378 (1994). | |
| | C59 | LEE, S.-W., et al., "A micro cell lysis device," <i>Sens. Actuators A</i> 73(1&2):74-79 (Mar. 1999). | |
| | C60 | LI, J., et al., "Direct electron transfer to cytochrome c oxidase in self-assembled monolayers on gold electrodes," <i>J. Electroanal. Chem.</i> 416(1&2):97-104 (Nov. 1996). | |
| | C61 | LI, J., et al., "Viologen-thiol self-assembled monolayers for immobilized horseradish peroxidase at gold electrode surface," <i>Electrochim. Acta</i> 42(6):961-967 (1997). | |
| | C62 | LION-DAGAN, M., et al., "A Bifunctional Monolayer Electrode consisting of 4-Pyridyl Sulfide and Photoswitchable Spiropyran: Photoswitchable Electrical Communication between the Electrode and Cytochrome C," <i>J. Chem. Soc. Chem. Commun.</i> 24:2741-2742 (1994). | |
| | C63 | LIU, R., et al., "Passive mixing in a three dimensional serpentine microchannel," <i>J. Microelectromech. Syst.</i> 9(2):190-196 (Jun. 2000). | |
| | C64 | LIVACHE, T., et al., "Biosensing effects in functionalized electroconducting conjugated polymer layers: addressable DNA matrix for the detection of gene mutations," <i>Synth. Metals</i> 71:2143-2146 (1995). | |
| | C65 | LOWE, C.R., "An Introduction to the Concepts and Technology of Biosensors," <i>Biosensors I</i> , pp. 3-16 (1985). | |
| | C66 | LYSOV, Y., et al., "A new method for determining the DNA nucleotide sequence by hybridization with oligonucleotides," <i>Doklady Biochem. Proc. Acad. Sci. USSR</i> 303(6):436-438 (May. 1989). | |
| | C67 | MANDLER, D., et al., "Applications of self-assembled monolayers in electroanalytical chemistry," <i>Electroanalysis</i> 8(3):207-213 (1996). | |
| | C68 | McGEE, D., et al., "Novel nucleosides via intramolecular functionalization of 2,2'-anhydrouridine derivatives," <i>Tetrahedron Lett.</i> 37(12):1995-1998 (1996). | |
| | C69 | MICHALITSCH, R., et al., "Properties of self-assembled monolayers (SAMS) from thiol-functionalized oligothiophenes," <i>Adv. Mater.</i> 9(4):321-325 (Apr. 1997). | |
| | C70 | MIKKELSEN, S., "Electrochemical Biosensors for DNA Sequence Detection," <i>Electroanalysis</i> 8(1):15-19 (1996). | |
| | C71 | MIR, K., et al., "Determining the influence of structure on hybridization using oligonucleotide arrays," <i>Nat. Biotechnol.</i> 17(8):788-792 (Aug. 1999). | |
| | C72 | MIRKHALAF, F., et al., "Surface spectroscopy and electrochemical characterisation of metal dithizonates covalently attached to gold by a self-assembled cysteamine monolayer," <i>J. Chem. Soc. Faraday Transact.</i> 94(9):1321-1327 (1998). | |
| | C73 | MIRSKY, V., et al., "Capacitive monitoring of protein immobilization and antigen-antibody reactions on monomolecular alkylthiol films on gold electrode," <i>Biosens. Bioelect.</i> 12(9&10):977-989 (1997). | |

| | | | |
|--------------------|--|-----------------|------------|
| Examiner Signature | | Date Considered | 12/08/2004 |
|--------------------|--|-----------------|------------|

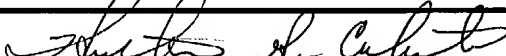
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2



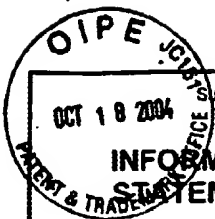
| | | | | | |
|---|---|--------------------------|-------------------|------------------------|--------------------------------------|
| Substitute for form 1449A/PTO (Modified) | | Complete if Known | | | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Application Number | 09/626,096 | | |
| | | Filing Date | July 26, 2000 | | |
| | | First Named Inventor | UMEK, Robert M. | | |
| | | Art Unit | 1637 | | |
| | | Examiner Name | Calamita, Heather | | |
| Sheet | 8 | of | 10 | Attorney Docket Number | A-88271-2/RMS/RMK/SPL (463037-00204) |

| NON PATENT LITERATURE DOCUMENTS | | | |
|---------------------------------|-----------------------|---|----|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | 7* |
| 966 | C74 | MISTLER, R.E., "Tape Casting: The Basic Process for Meeting the Needs of the Electronics Industry," <i>Ceramic Bull.</i> 69(6):1022-1026 (1990). | |
| | C75 | MULLER, W., "Partitioning of Nucleic Acids", Partitioning in Aqueous Two-Phase Systems," <i>Partitioning in Aqueous Two-Phase Systems</i> , Academic Press, Inc.: San Diego, CA, 1995, 7:227-266. | |
| | C76 | MULLER, W., et al., "DNA fractionation by two-phase partition with aid of a base specific macroligand," <i>Anal. Biochem.</i> 118(2):269-277 (Dec. 1981). | |
| | C77 | NAPIER, M., et al., "Modification of Electrodes with Dicarboxylate Self-Assembled Monolayers for Attachment and Detection of Nucleic Acids," <i>Langmuir</i> 13(23):6342-6344 (Nov. 1997). | |
| | C78 | NORTHROP, M., et al., "A Miniature analytical instrument for nucleic acids based on micromachined silicon reaction chambers," <i>Anal. Chem.</i> 70(1):918-922 (Mar. 1998). | |
| | C79 | NYBORG, W.L., "Acoustic Straining Near a Boundary," <i>J. Acoustics Soc. Am.</i> 30:329-339 (1958). | |
| | C80 | OBENG, Y., et al., "Electrogenerated Chemiluminescence. 53. Electrochemistry and Emission from Adsorbed Monolayers of a Tris(bipyridyl) ruthenium (II)- Based Surfactant on Gold and Tin Oxide Electrodes," <i>Langmuir</i> 7(1):195-201 (Jan. 1991). | |
| | C81 | PANG, D.-W., et al., "Modification of glassy carbon and gold electrodes with DNA," <i>J. Electroanal. Chem.</i> 403(1&2):183-188 (Feb. 1996). | |
| | C82 | PARIKH, A., et al., "An intrinsic relationship between molecular structure in self-assembled <i>n</i> -alkylsiloxane monolayers and deposition temperature," <i>J. Phys. Chem.</i> 98(31):7577-7590 (Aug. 1994). | |
| | C83 | PLAXCO, K., et al., "The importance of being unfolded," <i>Nature</i> 386(6626):657-659 (Apr. 1997). | |
| | C84 | POTYRAILO, R., et al., "Adapting selected nucleic acid ligands (aptamers) to biosensors," <i>Anal. Chem.</i> 70(16):3419-3425 (Aug. 1998). | |
| | C85 | PREZYNA, L., et al., "Interaction of catatonic polypeptides with electraactive polypyrrole/poly(styrenesulfonate) and poly(<i>n</i> -methylpyrrole)/poly(styrenesulfonate) films," <i>Synth. Metals</i> 41(3):979-981 (May. 1991). | |
| | C86 | ROJAS, M., et al., "Molecular Recognition at the Electrode-Solution Interface, Design, Self-Assembly, and Interfacial Binding Properties of a Molecular Sensor," <i>J. Am. Chem. Soc.</i> 117(21):5883-5884 (May. 1995). | |
| | C87 | RÜCHEL, R.R., "Transmission-electron microscopic observations of freeze-etched polyacrylamide gels," <i>J. Chromatogr. A</i> 166(2):563-575 (Dec. 1978). | |
| | C88 | SACHS, S., et al., "Rates of interfacial electron transfer through conjugated spacers," <i>J. Am. Chem. Soc.</i> 119(43):10563-10564 (Oct. 1997). | |
| | C89 | SAKAMOTO, S., et al., "Design and synthesis of flavin-conjugated peptides and assembly on a gold electrode," <i>J. Chem. Soc. Perkin Transact. 2</i> 2(11):2319-2326 (1996). | |
| | C90 | SMALLEY, J., et al., "Kinetics of Electron Transfer through Ferrocene-Terminated Alanethiol Monolayers Gold," <i>J. Phys. Chem.</i> 99(35):13141-13149 (Aug. 1995). | |
| | C91 | SMITH, E., et al., "Corticotropin releasing factor induction of leukocyte-derived immunoreactive ACTH and endorphins," <i>Nature</i> 321(6073):881-882 (Jun. 1986). | |

| | | | |
|--------------------|---|-----------------|------------|
| Examiner Signature |  | Date Considered | 10/18/2004 |
|--------------------|---|-----------------|------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2



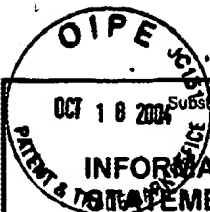
| | | | | | |
|--|-------------------|--------------------------|-----------------|------------------------|--------------------------------------|
| Substitute for form 1449A/PTO (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Complete if Known | | | |
| | | Application Number | 09/626,096 | | |
| | | Filing Date | July 26, 2000 | | |
| | | First Named Inventor | UMEK, Robert M. | | |
| | | Art Unit | 1637 | | |
| Examiner Name | Calamita, Heather | | | | |
| Sheet | 9 | of | 10 | Attorney Docket Number | A-68271-2/RMS/RMK/SPL (463037-00204) |

| NON PATENT LITERATURE DOCUMENTS | | | | |
|---------------------------------|-----------|---|--|--|
| Examiner Initials* | Cite No.† | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume/issue number(s), publisher, city and/or country where published. | | |
| Abc | C92 | SMITH, L., et al., "Mapping and Sequencing the Human Genome: How to Proceed," <i>Biotechnology</i> 5:933-942 (1987). | | |
| | C93 | SOUTEYRAND, E., et al., "Direct detection of the hybridization of synthetic homo-oligomer DNA sequences by field effect," <i>J. Phys. Chem. B</i> 101(15):2980-2985 (Apr. 1997). | | |
| | C94 | STEINBERG, S., et al., "Ion-Selective Monolayer Membranes Based upon Self-Assembling Tetradentate Ligand Monolayers on Gold Electrodes. 2. Effect of Applied Potential on Ion Binding," <i>J. Am. Chem. Soc.</i> 113(14):5176-5182 (Jul. 1991). | | |
| | C95 | STEINBERG, S., et al., "Ion-Selective Monolayer Membranes Based upon Self-Assembling Tetradentate Ligand Monolayers on Gold Electrodes. 3. Application as Selective Ion Sensors," <i>Langmuir</i> 8(4):1183-1187 (Apr. 1992). | | |
| | C96 | STELZLE, M., et al., "On the Application of Supported Bilayers as Receptive Layers for Biosensors with Electrical Detection," <i>J. Phys. Chem.</i> 97(12):2974-2981 (Mar. 1993). | | |
| | C97 | STORA, T., et al., "Metal ion trace detection by chelator-modified gold electrode: a comparison of surface to bulk affinity," <i>Langmuir</i> 13(20):5211-5214 (Oct. 1997). | | |
| | C98 | SUN, S., et al., "Preparation of active Langmuir-Blodgett films of glucose oxidase," <i>Langmuir</i> 7(4):727-737 (Apr. 1991). | | |
| | C99 | SYVÄNEN, A. C., "Detection of point mutations in human genes by the solid-phase minisequencing method," <i>Clin. Chim. Acta</i> 226(2):225-236 (May. 1994). | | |
| | C100 | TAKEDA, H., et al., "Preparation of 1-alkynyl 2-(trimethylsilyl)ethyl sulfides as thiolate anion precursors for self-assembled monolayers," <i>Tetrahedron Lett.</i> 39(22):3701-3704 (May. 1998). | | |
| | C101 | TERRETTAZ, S., et al., "Protein binding to supported lipid membranes: investigation of the cholera toxin-ganglioside interaction by simultaneous impedance spectroscopy and surface plasmon resonance," <i>Langmuir</i> 9(5):1361-1369 (May. 1993). | | |
| | C102 | TOMINAGA, M., et al., "Tuning of lipid bilayer fluidity regulates mediated electron transfer reactions of glucose oxidase immobilized on lipid bilayer films on an electrode," <i>Bioelectrochem. Bioenerg.</i> 42(1):59-62 (Apr. 1997). | | |
| | C103 | TOPFER, M. L., <i>Technology Thick-Film Microelectronics: Fabrication, Design, and Applications: Microelectronics Series</i> ; Litton Educational Publishing, Inc.: New York, NY, 3:41-59 (1971). | | |
| | C104 | TSUNEO, M., et al., "Coumarin-fluorescein pair as a new donor-acceptor set for fluorescence energy transfer study of DNA," <i>Tetrahedron Lett.</i> 41(15):2605-2608 (2000). | | |
| | C105 | WALKER, G. T., et al., "A Chemiluminescent DNA Probe Test Based on Strand Displacement Amplification," <i>Molecular Methods for Virus Detection</i> , ch. 15, pp. 329-349, Academic Press, Inc.: San Diego, CA (1995). | | |
| | C106 | WALLACE et al., "Electron Transfer of Yeast Cytochrome C Immobilized On Sam Modified Gold Electrodes", <i>Book of Abstracts, 214th ACS National Meeting</i> , Las Vegas, NV, PHYS-326, American Chemical Society, Washington D. C. (September 7-11, 1997). | | |
| | C107 | WANG, J., et al., "DNA biosensor for the detection of hydrazines," <i>Anal. Chem.</i> 68(13):2251-2254 (Jul. 1996). | | |
| | C108 | WANG, J., et al., "Trace measurements of nucleic acids using flow injection amperometry," <i>Anal. Chim. Acta</i> 319(3):347-352 (Feb. 1996). | | |

| | | | |
|--------------------|--|-----------------|------------|
| Examiner Signature | | Date Considered | 12/05/2004 |
|--------------------|--|-----------------|------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
†Applicant's unique citation designation number (optional). ‡ See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. § Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ¶ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ** Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. *** Applicant is to place a check mark here if English Language Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2



| | | | | | |
|--|----|----|--------------------------|------------------------|--------------------------------------|
| Substitute for form 1449A/PTO (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | | Complete if Known | | |
| | | | Application Number | 09/626,096 | |
| | | | Filing Date | July 26, 2000 | |
| | | | First Named Inventor | UMEK, Robert M. | |
| | | | Art Unit | 1637 | |
| | | | Examiner Name | Calamita, Heather | |
| Sheet | 10 | of | 10 | Attorney Docket Number | A-68271-2/RMS/RMK/SPL (463037-00204) |

| NON PATENT LITERATURE DOCUMENTS | | | | | |
|---------------------------------|-----------------------|---|--|--|----|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | | | 1* |
| | C109 | WELCH, T., et al., "Distribution of Metal Complexes Bound to DNA Determined by Normal Pulse Voltammetry," <i>J. Phys. Chem.</i> 100(32):13829-13836 (Aug. 1996). | | | |
| | C110 | WELCH, T., et al., "Electron-Rich Oxoruthenium(IV) Cleavage Agents: A Zero-Order Rate Law for DNA Catalysis," <i>Inorg. Chem.</i> 36(21):4812-4821 (Oct. 1997). | | | |
| | C111 | WILDING, P., et al., "PCR in a Silicon Microstructure," <i>Clin. Chem.</i> 40(9):1815-1818 (Sep. 1994). | | | |
| | C112 | WOOD, J.C., et al., "Time-Frequency Transforms: A New Approach to First Heart Sound Frequency Dynamics," <i>IEEE Transact. Biomed. Eng.</i> 39(7):730-740 (1992). | | | |
| | C113 | YGUERABIDE, J., et al., "Quantitative Fluorescence Method for Continuous Measurement of DNA Hybridization Kinetics Using a Fluorescent Intercalator," <i>Anal. Biochem.</i> 228(2):208-220 (Jul. 1995). | | | |

| | | | |
|--------------------|--|-----------------|------------|
| Examiner Signature | | Date Considered | 12/08/2004 |
|--------------------|--|-----------------|------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible. ⁶Applicant is to place a check mark here if English Language Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and selection option 2